REMARKS

Claims 1 and 7-9 are amended herein. Claim 1 is amended herein to recite a modified adenoviral fiber containing at least one mutation situated in specific positions of the adenoviral fiber protein: position 506, 508 and/or 555 of the wild type Ad5 fiber protein as shown in SEQ ID NO: 1, or an equivalent position in a non-Ad5 fiber protein. Claim 7 is amended to recite substitutions as set forth in claims 5-6. Claim 9 is amended to recite the corresponding position of the wild type Ad2 fiber protein. Basis for the amendments may be found throughout the specification and claims as-filed. No new matter is set forth herein.

Claims 5-6 are canceled herein without prejudice or disclaimer thereto.

With regard to the Information Disclosure Statement of January 10, 2005, the references requested by the Examiner are attached hereto.

Turning to the restriction requirement, the Examiner has required that the present application be restricted, under 35 U.S.C. §§ 121 and 372, to one of the following four groups of claims:

Group I: Claims 1-18, drawn to a modified adenoviral fiber protein monomer or trimer comprising the same, wherein the modification(s) affect interaction of the fiber timer with a glycosaminoglycan or sialic acid-containing receptor;

Group II: Claim 19, drawn to a DNA encoding a modified fiber protein of group I;

Group III: Claims 20-34 and 40-41, drawn to an adenoviral particle comprising a trimer of group I; and

Group IV: Claims 35-39 and 42-43, drawn to a method for preparing the adenoviral particle of Group III.

Applicant hereby elects *with traverse* the invention defined by the Office as Group III (claims 20-34 and 40-41, drawn to an adenoviral particle comprising a trimer of Group I). Applicants respectfully traverse, as set forth below.

The Office cites to three documents as disclosing a technical feature which is purportedly shared among the present claims. Wickham (U.S. Patent No. 5,770,442), Liessner (*Gene Ther.*, 8:49-57, 2001), and Legrand (WO 98/44121 (U.S. Patent No. 6,569,677 used as translation)) are cited.

The present claims are amended herein. Claim 1 is amended to recite a modified adenoviral fiber containing at least one mutation situated in specific positions of the adenoviral fiber protein: position 506, 508 and/or 555 of the wild type Ad5 fiber protein as shown in SEQ ID NO: 1, or an equivalent position in a non-Ad5 fiber protein.

Wickham, Liessner and Legrand all fail to disclose a modified adenoviral fiber containing at least one mutation affecting one or more amino acid residues situated in positions 506, 508 and/or 555 of the wild type AD5 fiber protein, or an equivalent position in a non-Ad5 fiber protein.

Wickham merely describes chimerized adenoviral fiber proteins where a particular region of an adenoviral fiber of a particular serotype has been replaced by the corresponding region of another adenoviral serotype. Leissner only discloses mutations in positions 404 and 406 of the wild type Ad5 fiber protein. Legrand only discloses Ad5 fiber proteins in which the residues situated at various positions between residues 443 and 452 are mutated, and does not describe modified adenoviral fiber proteins where residues in positions 506, 508, or 555 are mutated.

In setting for the present restriction requirement between Groups I through IV, the Office appears to indicate that the replacement of a region of an adenoviral fiber of a particular serotype by the corresponding region of an adenoviral fiber of another serotype should be considered to be a mutated adenoviral fiber in the context of the present invention. Applicants submit that this is not the case. For example, page 10, lines 5-11 of the present specification illustrates that the mutations may be located in various fiber regions, which can be of the same serotype or from various different serotypes. The mutations affect an already chimeric fiber protein.

Accordingly, a chimeric fiber protein should not be considered as a mutated fiber protein in the context of the present invention.

To this end, the claims of the four groups of claims set forth by the Office for this restriction requirement share at least one common novel and inventive technical feature over the prior art. This technical feature is present in the adenoviral fiber protein of at least one mutation affecting at least one residue in a position selected from positions 506, 508, or 555 of Ad5 or an equivalent position of a non-Ad5 fiber protein. As the four groups share this inventive technical feature, Applicants request that Groups I, II, III, and IV be rejoined and examined on the merits. At least, Applicants request that once product claims are found to be allowable, the process claims having the limitations of the adenoviral particles of group HI should be rejoined as well.

Applicants respectfully submit that the inventions of Groups I-IV are closely related and that a proper search of any of the claims should, by necessity, require a proper search of the others. Thus, Applicant submits that all of the claims can be searched simultaneously, and that a duplicative search, with possibly inconsistent results, may occur if the restriction requirement is maintained.

Regardless of whether the four inventions are independent or distinct, Applicant respectfully asserts that the Examiner need not have restricted the application. MPEP § 803 requires that "[i]f the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims to independent or distinct inventions." Therefore, it is not mandatory to make a restriction requirement in all situations where it would be deemed proper.

On page 4, the Office requires an election of species of the generic invention of Group I. Applicants, in light of the above arguments regarding rejoinder, address this election.

In order to comply with the requirements of 37 C.F.R. § 1.146, Applicants hereby elect with traverse the following species for purposes of searching only:

- Concerning the adenoviral particle, Applicants elect with traverse:
    - with an heterologous ligand,

- which is genetically coupled,
- to the fiber protein.

- Concerning the fiber protein, Applicants elect with traverse:
  - of the Ad5 serotype,
  - with a substitution with the lysine in position 506 by glutamine and a substitution of the histidine in position 508 by a lysine,
  - with an additional mutation affecting a residue interacting with the CAR cellular receptor consisting of a substitution of the serine in position 408 by glutamic acid.

Applicants submit that all of the claims share a special technical feature, *i.e.*, the presence of at least one mutation in positions 506, 508 and/or 555 of Ad5 or an equivalent position in a non-Ad5 fiber protein. Furthermore, with regard to adenoviral serotypes 2 and 5, Applicants note that Ad2 and Ad5 are closely related serotypes, as clearly stated in Wickham (see column 2, lines 29-35).

Substitutions in positions 506, 508, or 555 of Ad5 or equivalent positions of the non-Ad5 fiber proteins has not been disclosed in the cited art. Any substitution in one of these positions, or any combination thereof is inventive. As a result, the presence of at least one mutation in one or more of these positions should be considered as an inventive special technical feature.

With regard to the optional presence of an additional mutation affecting at least one residue interacting with the CAR cellular receptor, Applicants submit that the mutated adenoviral fiber proteins of the present invention, whether or not they have such an additional mutation, already share an inventive special technical feature by the presence of at least one mutation in positions 506, 508, and/or 555.

Applicants expressly reserve the right to traverse any subsequent divisions made by the Examiner of the present invention into "inventive groups" following the present provisional election of one species for examination.

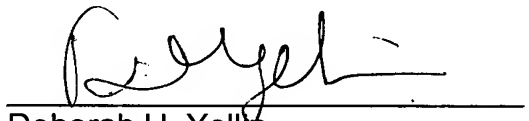
Applicants have no intention of abandoning any non-elected subject matter and should it be necessary, Applicants expressly reserve the right to file one or more continuation and/or divisional applications directed to non-elected subject matter.

In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited. The Examiner is invited to contact the undersigned at 703-838-6563, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: April 13, 2007

By: 

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